**Unit 10 Problem Set 2**

1. What determines whether a substance will dissolve? What determines how fast it will dissolve?
2. What could you do to change a saturated solid/liquid solution to an unsaturated solution?
3. What could you do to change a saturated gas/liquid solution to an unsaturated solution?
4. The solubility of a gas is .58 g/l at a pressure of 104 kpa. What is its solubility if the pressure increases to 250 kpa at the same temperature?
5. The solubility of CO2 in water at 1.22 atm. is 0.54 g/L. What is the solubility of carbon dioxide at 1.86 atm.? Assume that temperature is constant.
6. Calculate the molarity of 0.40 mol of NaCl dissolved in 1.6 L of solution.
7. Calculate the molarity of 20.2 g of potassium nitrate, KNO3, in enough water to make 250.0 mL of solution.
8. Calculate the number of grams needed to make 2500.0mL of a 3.0 M solution of potassium hydroxide, KOH.
9. Calculate the number of grams needed to make 2.0 liters of 2.0 M nitric acid, HNO3, solution.
10. What is the molarity of a solution that contains 212.5 g of sodium nitrate (NaNO3) in 3.0 liters of solution?